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A GENERAL SITE LOCATION STUDY FOR A REGIONAL COLLEGE FOR THE OKANAGAN AREA OF BRITISH COLUMBIA.

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THE FEASIBILITY AND GENERAL SITE LOCATION OF A REGIONAL COLLEGE FOR TEN SCHOOL DISTRICTS IN THE OKANAGAN AREA OF BRITISH COLUMBIA WAS STUDIED AND ESTABLISHED. GEOGRAPHIC CENTERS OF POPULATION DISTRIBUTION, TRANSPORTATION, GENERAL ECONOMY AND SCHOOL POPULATIONS FOR GRADES 1-12 AND 13-14 WERE DETERMINED FROM THE ANALYSIS OF DEMOGRAPHIC, GEOGRAPHIC AND ECONOMIC SURVEYS OF THE REGION. COMPARISONS WITH PREVIOUSLY ESTABLISHED CRITERIA FOR POTENTIAL COMMUTING STUDENTS AND FOR ASSESSED VALUATION RESULTED IN THE RECOMMENDATION THAT A REGIONAL COLLEGE BE LOCATED NEAR THE FOCUS OF THE VARIOUS GEOGRAPHIC CENTERS. THIS COMPOSITE GEOGRAPHIC CENTER HAD A RADIUS OF TEN MILES AND CONTAINED SEVEN POTENTIAL, SPECIFIC SITE LOCATIONS NEAR THE CITY OF KELONNA. THE REPORT ALSO RECOMMENDED AN ADDITIONAL STUDY TO SELECT THE SPECIFIC SITE LOCATION. (BH)

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A GENERAL SITE LOCATION STUDY FOR A REGIONAL COLLEGE FOR THE OKANAGAN AREA OF BRITISH COLUMBIA

Conducted for THE OKANAGAN REGIONAL COLLEGE COMMITTEE

MARCH 15, 1965

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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A GENERAL SITE LOCATION STUDY FOR A REGIONAL COLLEGE FOR THE OKANAGAN AREA OF BRITISH COLUMBIA

Conducted for

The Okanagan Regional College Committee

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FOREWARD

This report is submitted to the Okanagan Regional College Committee upon the completion of the initial phase of a comprehensive study of regional college education in the Okanagan area. The data upon which this study was based were obtained from primary sources and the following report is independent of any previous studies and reports.

The task of conducting and completing the study was greatly enhanced by the complete cooperation, interest, and assistance of every person and agency that was asked to provide data. It is impossible to acknowledge every individual who contributed, but I wish to express appreciation to the members of the Okanagan Regional College Committee; superintendents, secretary-treasurers, and members of the boards of trustees of the ten cooperating school districts; mayors and council members of the cities of the area; chambers of commerce; and interested community agencies and citizens for their helpful assistance.

The assistance and hospitality of Committee Chairman Frank Venables merits special thanks since he was available at our every call.

I would also like to acknowledge the contributions of Raymond Schneider as general consultant, George Pennell as illustrator and statistician, and Gilbert Carbone as editor of the many drafts of this report.

As Project Director, I hope this report will be received with the objectivity and dedication of purpose that characterized the work of the staff and that it will significantly contribute to the establishment of a Regional College for the Okanagan area.

Frederic T. Giles

Frederic T. Giles
Project Director

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A GENERAL SITE LOCATION STUDY FOR A REGIONAL COLLEGE FOR THE OKANAGAN AREA OF BRITISH COLUMBIA

PART I - INTRODUCTION

Statement of Purpose

The purpose of this study was to gather and analyze data and to make recommendations concerning the most appropriate general location for a regional college to serve that portion of the Okanagan area of British Columbia, Canada, that is included within the boundaries of the ten school districts represented by the Okanagan Regional College Committee. (See Figure 1) This is the first phase of a larger, long-term study which will include the selection of a specific campus site and the development of a program for the proposed college, as outlined in the September 16, 1964, resolution of the Okanagan Regional College Committee which stated:

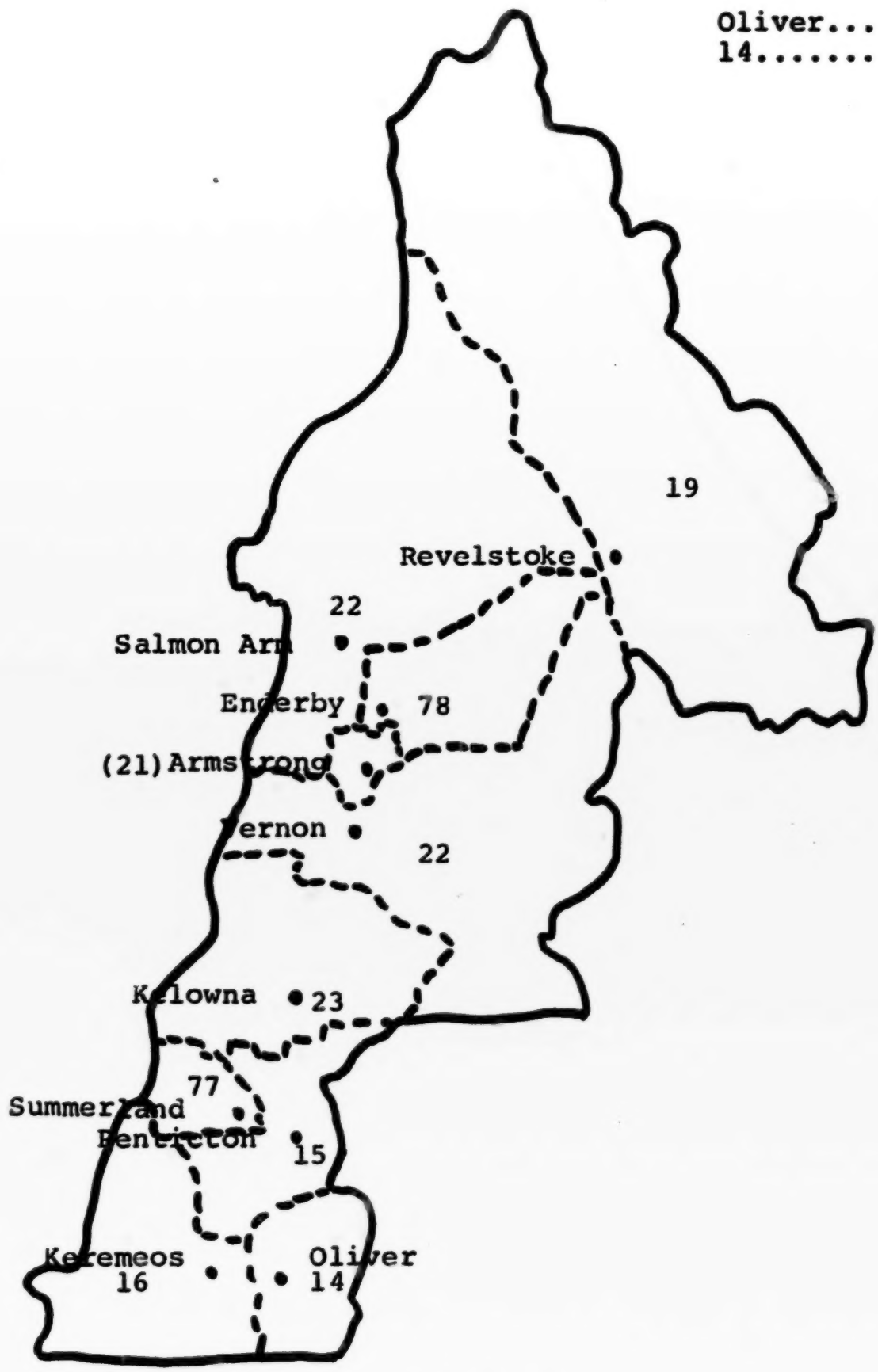

FIGURE 1

COOPERATING SCHOOL DISTRICTS
OKANAGAN REGIONAL COLLEGE COMMITTEE

> "Resolved that the Okanagan Regional College Committee appoint Dr. F. T. Giles to make a study and recommend as to the broad curriculum objectives and probable costs of a Regional College to serve the Okanagan area, and to make a study and to recommend as to the site of a Regional College to serve the Okanagan area, and further that the Okanagan Regional College Committee agrees to accept his findings and recommendations with respect to the site and that these findings be presented to our electors in a plebiscite."

Specifically, the major purpose of this first portion of the total study was to determine the general location of the proposed college based upon the development of pertinent criteria and analysis of objective data that would provide a quality post-high school educational opportunity for the greatest number of potential students.

Historical Background

It may be helpful for those who read this study report to obtain a greater knowledge of the effort which preceded this study. Reports of previous studies and supporting briefs were received and reviewed by the Study Staff but were not utilized as primary resources in the conduct of the present study.

For more than a decade the people of the Okanagan Valley have exhibited a high interest in the establishment of a post-high school educational institution to serve the area. Originally this interest was manifest in the desire for a university-level institution that would provide liberal arts education consistent with the high cultural level of the region. This notion was

supplanted in part by proponents of the concept of a two-year comprehensive college, but it was subsequently revived as a result of the Macdonald Report of 1962.

Even with high interest, strong desire, obvious need, and excellent studies, the attainment of the commonly accepted goal of securing a regional college proved difficult. The subsequent organization of the Okanagan Regional College Committee was an attempt by public school officials and trustees to focus the energies of the entire region on this problem. It was at the direction of that Committee that the present study was undertaken.

The following brief review of the preceding key studies that were examined by the Study Staff is presented as a means of placing the present study in historical perspective.

Upon the direction of the Mayor and City Council of Kelowna, Dr. Ann Dawe conducted a survey for the purpose of making recommendations concerning the establishment of "an educational institution at the junior college level in Kelowna." The original report of the survey[1*] in April, 1959, and a supplement[2] that appeared in May, 1960, recommended that "the need in the Okanagan Valley calls for the establishing of a composite college which will serve the needs of students who wish to pursue a liberal arts or pre-professional course, as well as those who, because of a different interest, desire vocational technical training."

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* Works cited in this report are numerically arrayed in the Bibliography which follows the main report.

As a result of these reports, leadership in the college movement was invested in the Kelowna Higher Education Committee and ultimately prompted the incorporation of the Okanagan Community College Society that served to sustain interest in the Kelowna area.

A report by the University of British Columbia President, John B. Macdonald,[3] that appeared in December, 1962, called for implementing the concept of diversification of educational opportunity in the Province. This report recommended, in part, the establishment of a two-year college located at a site near Highway 97 on the west side of Okanagan Lake immediately opposite the City of Kelowna, which in a few years would become a four-year institution. Briefs submitted to Dr. Macdonald by the Southern Interior Junior College Society,[4] the Board of School Trustees of School District No. 22 (Vernon),[5] and the City of Kelowna[6] attest to the diverse educational needs and interests of the people of the region.

However, with all the foregoing formal studies and reports, as well as other less formal activities of interested groups and individuals, orderly progress toward the establishment of a college was impeded. In an attempt to take a fresh look at the problem by an outside group, the present study was established.

Need for the Study

The decentralization of higher education in British Columbia has resulted in the establishment of new institutions. As one of the natural geographic and demographic regions of the Province, the Okanagan Valley was identified as a logical location for a college. Previous studies established the educational needs of the area and various communities and agencies made extensive studies of local educational needs. Provincial legislation provides that local areas assume responsibility for initiating and organizing regional colleges as well as financing a part of the costs of such institutions.

Representatives of ten school districts of the Okanagan area organized themselves into a Regional College Committee for the purpose of determining, among other factors, (1) the general site location, (2) the specific site, (3) the curricular objectives, and (4) the probable costs of a regional college. Additional study was needed to provide a basis for enabling the Committee to make the best educational decisions based upon the principle that the ultimate benefits of any educational institution should accrue to the people, young and old alike, for whom the institution is established. This study addresses itself to the first of these major problems -- the general site location.

Basic Assumptions

In an attempt to focus the activities of a general site location study for a regional college in the Okanagan area, some broad considerations associated with the proposed institution and its program were identified and approved by the Regional College Committee at the December 16, 1964, meeting in Kelowna. The organization of the study was based upon these following assumptions:

> That the proposed regional college will be organized to provide post-high school educational opportunity in the area comprised by the school districts represented by the Okanagan Valley Regional College Committee.
>
> That the proposed regional college will offer a comprehensive curriculum including the first two years of university level transfer courses, sub-professional courses, and adult education and cultural activities.
>
> That it is the intent of the Committee to establish an institution characterized by a permanent two-year, comprehensive, post-high school educational program.
>
> That the existence of other specialized post high school programs in the area may influence the curricular offerings of the regional college, but will not be a primary determinant of its general location.
>
> That it is the conception of the Committee that the college will be primarily a commuting institution, but that some resident-student facilities would need to be provided.

Procedures

The activities associated with this study were conducted in the following order:

(1) An initial meeting with the Okanagan Regional College Committee was held for the purpose of discussing the need, extent, and type of study desirable. (October 4, 1964; Vancouver)

(2) The project plan and outline was presented at a meeting of the Committee and the plan and the basic assumptions underlying the study were approved. (December 16, 1964; Kelowna)

(3) Briefs from interested parties were solicited and presented to the Study Staff. (January 15, 1965)

(4) Briefs were presented at hearings throughout the area. (February 4-6, 1965; Penticton, Kelowna, Vernon, and Salmon Arm.)

(5) All data were analyzed and evaluated by the Study Staff.

(6) The final report was presented to the Committee. (March 16, 1965; Kelowna)

PART II - IDENTIFICATION OF FACTORS AFFECTING GENERAL SITE LOCATION

The essential task of this study was to examine the Okanagan region with respect to certain factors relevant to the general location of a regional college. Through reference to previous studies of a similar character, it was possible to identify a number of such factors.[7,8,9] Data were obtained from the cooperating school districts, other interested groups, and various other sources relative to the following factors:

(1) Geographic - Maps of the area indicating the boundaries of the cooperating school districts, other political subdivisions and tax levying units, and climatic conditions relating to the physical characteristics of the area.

(2) Population - Reports showing the general population changes for the previous 5-10 years and projected population estimates for the future 5-10 years and census and other demographic data indicating population distribution by age groups, occupational status, and educational attainment.

(3) School Population - Reports showing previous and projected school population by grade for each school district for the period 1954-1969, reports of Grade 13 enrollments in the area, and reports of projected school physical facilities and curricular development in the area.

(4) Transportation and Communication - Maps showing the highway and road system and projected development, information concerning existing and proposed public transportation systems in the area, and information concerning existing and proposed communications systems and facilities.

(5) Economic - Information on present and projected land usage, reports of city or regional planning activities, reports concerning manpower needs of the area, and information about the general economic conditions of the area.

Decisions concerning the selection of factors to be utilized in the collection of data for the study and the subsequent analysis of these data were constantly examined in light of one overriding general consideration basic to the entire study. That consideration was: How is it possible to provide the best post-high school educational opportunity for the greatest number of people in the Okanagan area through the development of a regional college? Guided by a basic principle of centrality as the major criterion againstwhich such factors could be compared, six primary factors were identified and utilized in the study.

The linear character of the area under study provided a basis for rejecting factors that might be associated with an east-west description of the area and prompted the Study Staff to utilize a scheme for making comparisons of the primary factors based upon the use of the International Boundary as a reference point. This technique essentially involved an analysis of the various data based on the road-mile distances of school centers from the reference point. In this way all of the pertinent data were related to the study in a consistent manner.

The following section deals with the six primary factors utilized in the study.

Geography

The physical area with which this study has been concerned has been defined as that area coterminous with the ten school districts represented by the Okanagan Regional College Committee. A list of the participating school districts is shown in Appendix A of this report. This area, commonly referred to as the Okanagan Valley, extends from the International Boundary on the south to the northern extremities of School District 19 (Revelstoke). For practical purposes the area may be described as extending along a generally north-south line running between the communities of Osoyoos and Salmon Arm with an additional northeastward extension that includes the City of Revelstoke, encompassing a total distance of approximately 220 land miles or 170 air miles. The Okanagan Valley is served by a single, hard-surface road (Highway 97) that provides an all-weather interchange between principle communities.

Geographic Center - Geography (Physical)

It was possible to locate the first of several geographic centers in the area -- geography (physical) -- by a triangulation technique based on determining the center of gravity of the irregularly-shaped plane described by the boundaries of the ten school districts. This center was determined to be a point on Sowsap Creek approximately 15 air miles due east of the northern extremities of the city limits of Armstrong. However, the geographic center of an area is significant only in situations

where there is a uniformly distributed population. Since this is not the case in the area under study, the physical geographic center of the area was rejected from further consideration as a criterion for the selection of the general location of the site. Figure 2 indicates the location of this center.

Population Factors

A fundamental concern in the location of an educational institution is that of determining whether or not the existing and projected population concentration will be sufficient to support the institution. In the previously cited study concerning the location of future community colleges in the State of Washington, Smith determined that the student population in a given area would be approximately 1 per cent of the total population of the area. Therefore, a population of 100,000 should provide a student pool of approximately 1,000 for a community college. The British Columbia Municipal Yearbook, 1964 provides the following approximate populations for the ten school districts included in the study area:

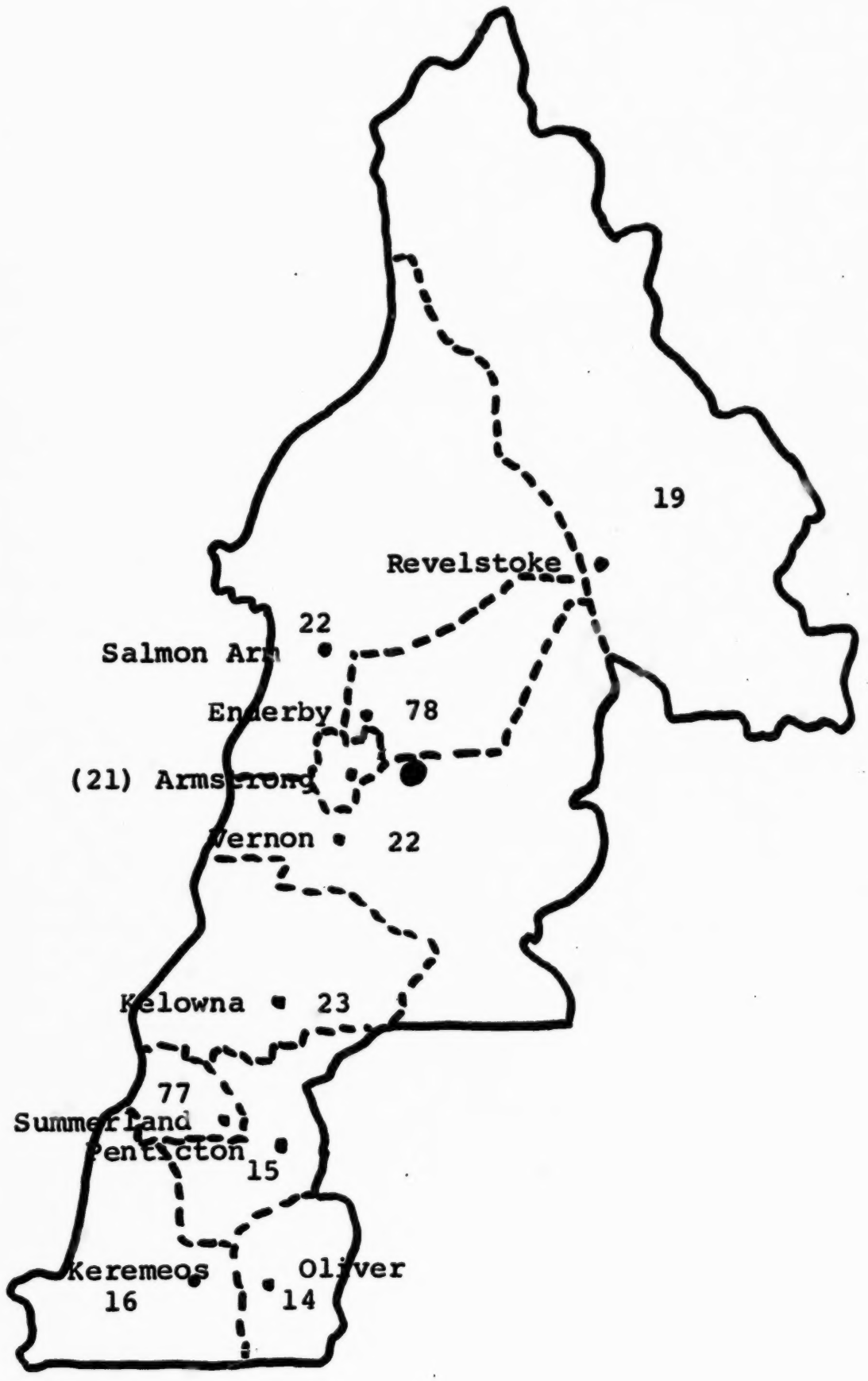


FIGURE 2

GEOGRAPHIC CENTER - GEOGRAPHY (PHYSICAL)

TABLE I

Approximate Populations of the Ten Cooperative School Districts

District No.	Approximate District Population - 1963
19 (Revelstoke)	5,500
20 (Salmon Arm)	10,900
78 (Enderby)	3,600
21 (Armstrong)	3,160
22 (Vernon)	19,500
23 (Kelowna)	26,200
77 (Summerland)	4,800
15 (Penticton)	16,500
16 (Keremeos)	3,100
14 (Southern Okanagan)	7,200
TOTAL	100,460

Geographic Center - Population

Using a commonly accepted statistical formula for determining the midpoing (see Appendix B), the center of population was determined to be a point approximately 86.6 miles north of the reference point on Highway 97. This technique involved using the school centers as the basis for computing road-mile distances from the reference point and as the foci for the approximate population of the various districts. Figure 3 shows the location of this center.

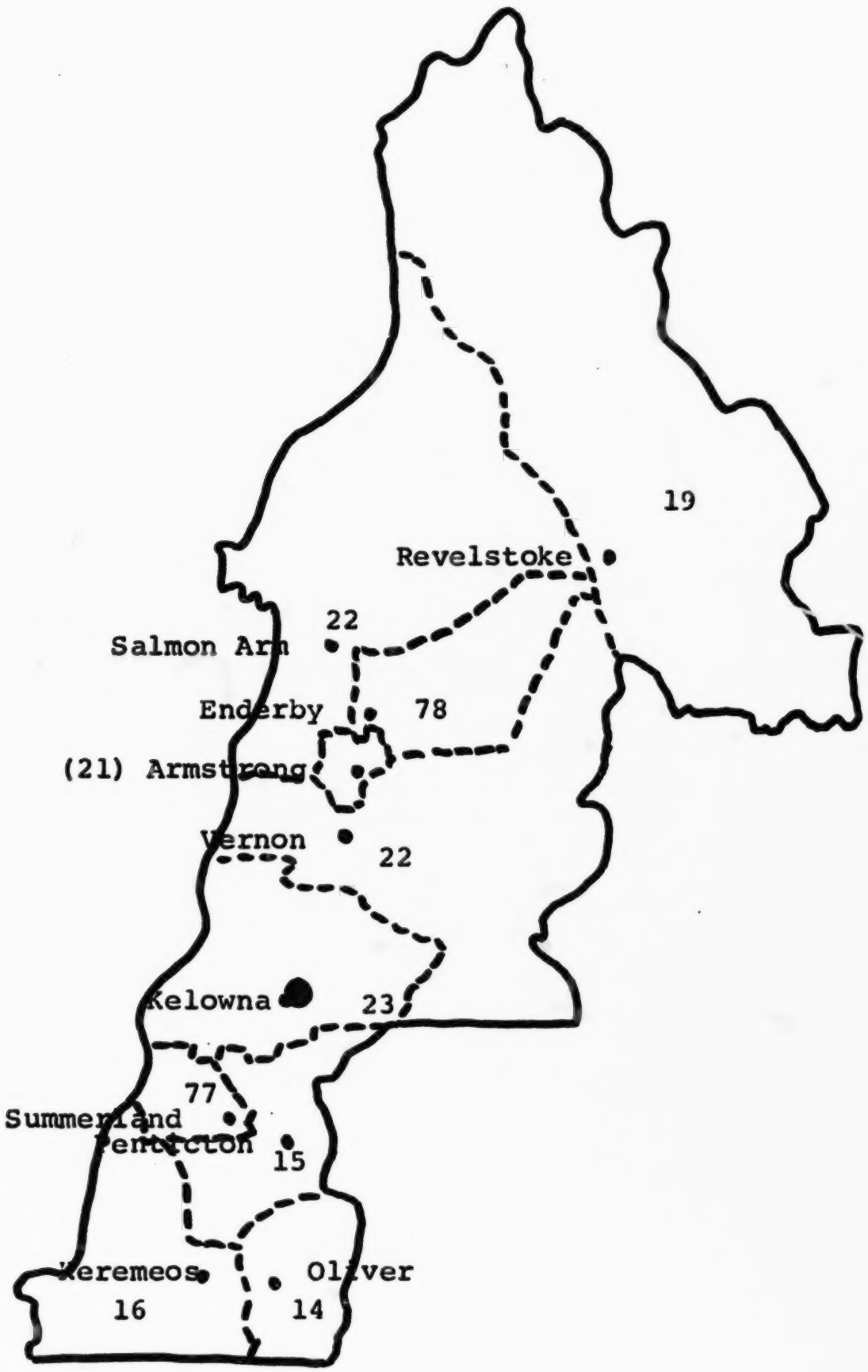


FIGURE 3

GEOGRAPHIC CENTER - POPULATION

Transportation

Transcontinental railroad lines intersect the Okanagan area in the northern and south-central portions and provide twice-daily feeder bus service between Salmon Arm and Kelowna and four daily runs between Kelowna and Penticton. Other commercial bus routes provide daily through service but not at times convenient to school schedules. Commercial air service between Penticton and Kelowna operates on a daily schedule, however this form of transportation is normally not economically feasible for commuting purposes. Although at some future date private air transportation may be an important factor in the area, at the present time it is not considered to be significant for the purposes of this study.

College-provided transportation of students may be an important factor when the specific location of the college is decided. Therefore, this factor was analyzed only with respect to the subject of this study -- the general location of the site. Future developments of public and private means of transportation may provide better service for commuting students than now afforded. However, it appears that the only significant transportation media presently applicable to this study is that of private conveyance.

Geographic Center - Transportation

The highway transportation system is primarily one of a north-south highway which has east-west entries at the extreme southern and northern sections of the region. The method used in determining the highway transportation center of the region, or the point at which the highway system divides it into north-south halves, was to calculate the mile center using Revelstoke as the northern extremity and Osoyoos as the southern extremity. These calculations were based on the mileage data provided the Study Staff by Provincial and local resources. This center was determined to be a point 110 miles north of the reference point on Highway 97. Figure 4 shows the location of this center.

The transportation center is significant only in an area where uniformly distributed population and adequate facilities and services make commuting distance equitable for all students and when the size of the area makes it possible for students to commute from its extremities. Therefore, the actual Geographic Center - Population has little bearing on the general location of the college and was not considered in the determination of the Geographic Center - Composite.

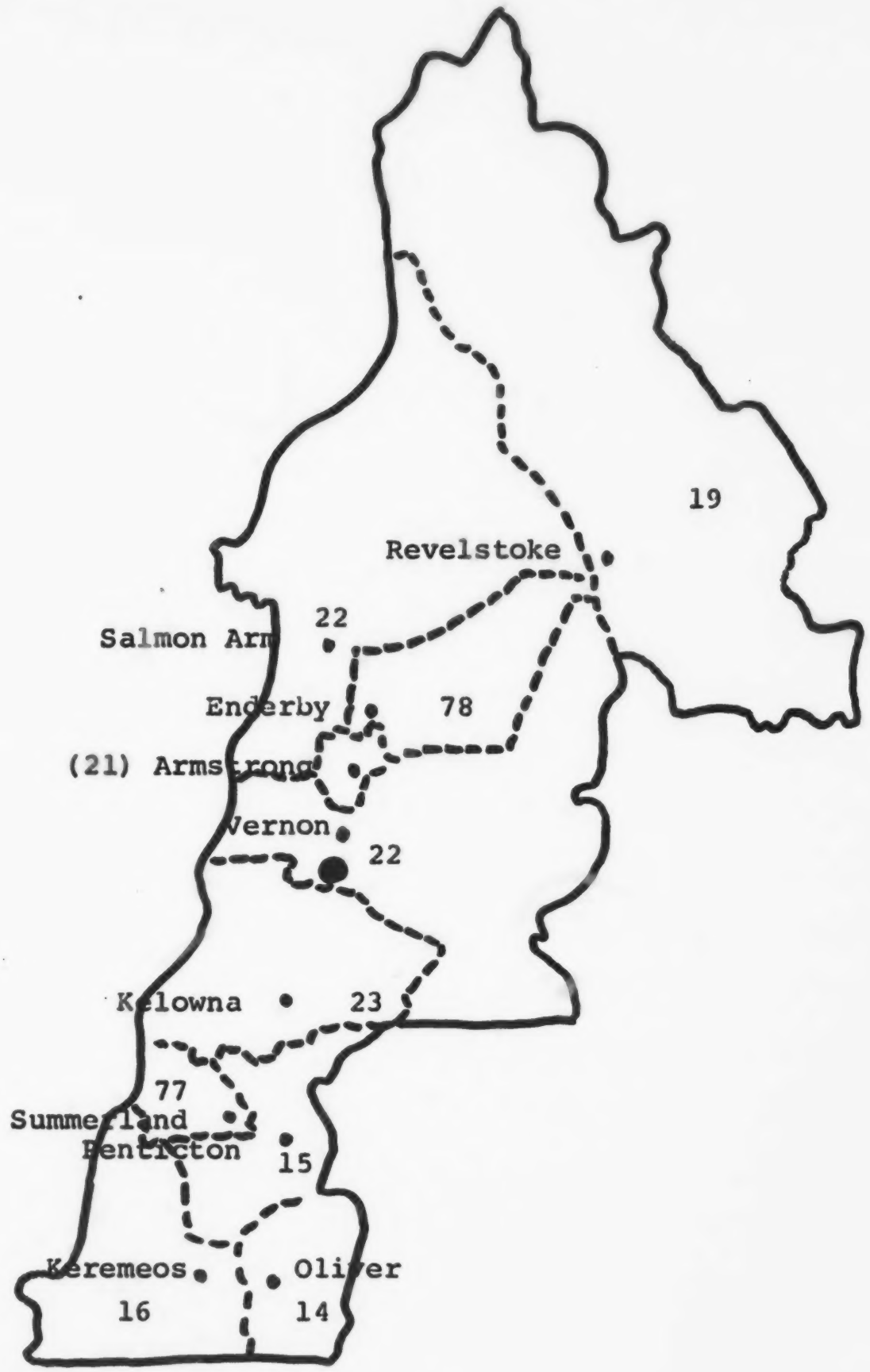


FIGURE 4

GEOGRAPHIC CENTER - TRANSPORTATION

General Economy

While the basic economy of the Okanagan area is largely agriculturally oriented, a diversity of other stable economic activity exists. The region derives a significant income from seasonal tourist enterprises and the construction of additional facilities to accommodate the tourist influx provides an index of the continued growth of this segment of the economy. Mining, light manufacturing, lumbering, and the food processing industries also contribute substantially to the economy of the region. Hydro-electric power development in the northern portion of the region and growth associated with the development of the Columbia River water resources all point to the continued economic vitality of the area.

However, the aggregate assessed valuation of each school district of the area based upon the residential, agricultural, and industrial utilization and facilities was considered to be the best single index of the economic factors associated with the study. It should be recognized that assessed valuation is primarily an indication of the area's ability to support an educational institution rather than one of determining the general location of the institution.

Geographic Center - General Economy (Assessed Valuation)

The latest available assessed valuations for each of the cooperating school districts is shown in Table II. The Geographic

Center - General Economy (Assessed Valuation) was determined to be a point 85.4 miles north of the reference point on Highway 97. Figure 5 shows the location of this center.

School Population Grades 1 - 12

Actual and projected school enrollment figures based upon official reports by the cooperating school districts are shown in Table III. Enrollments rose from 17,620 in 1954 to 26,071 in 1964 representing a 48 per cent increase. The districts showing the greatest percentage increase were Revelstoke, Salmon Arm, Penticton, and Kelowna, in that order. Anticipated enrollment in 1969 is 31,849, an increase of 5778 or 22.2 per cent over 1964 and an increase of 14,229 or 80.8 per cent over 1954.

Geographic Center - School Population Grades 1 - 12

This geographic center was also determined by using the statistical formula for finding the mid-point of a group of numbers distributed at various mile intervals from the reference point. Enrollment data were grouped into primary, intermediate, and secondary grades for the purpose of determining whether or not grade groupings would influence the location. Table IV contains these data.

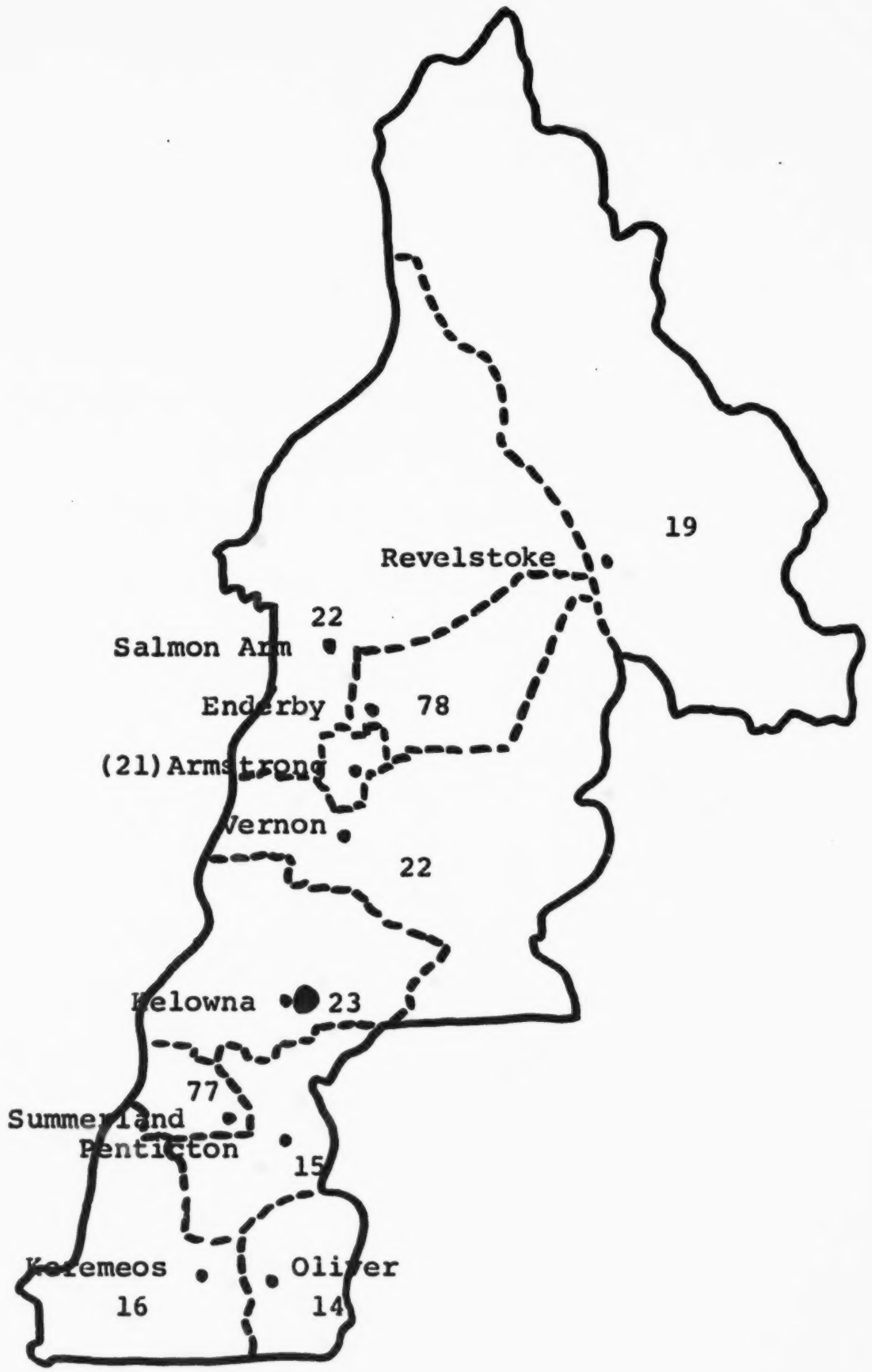


FIGURE 5

GEOGRAPHIC CENTER - GENERAL ECONOMY (ASSESSED VALUATION)

TABLE II

ASSESSED VALUATION BY SCHOOL DISTRICT

District No.	1962 Valuation	1962 Per Cent of Total	1963 Valuation	1963 Per Cent of Total	1964 Valuation	1964 Per Cent of Total
19 (Revelstoke)	$ 6,842,466	4.4	$ 7,397,582	4.5	$ 8,229,463	4.7
20 (Salmon Arm)	13,737,291	8.9	14,500,501	8.8	16,761,061	9.5
78 (Enderby)	3,073,424	2.0	3,333,903	2.0	3,711,923	2.1
21 (Armstrong)	4,298,507	2.8	4,441,610	2.7	4,592,352	2.6
22 (Vernon)	28,517,150	18.4	31,070,374	19.0	32,881,768	18.7
23 (Kelowna)	47,728,230	30.8	50,002,672	30.5	53,288,401	30.3
77 (Summerland)	6,889,472	4.4	7,139,526	4.4	7,424,677	4.2
15 (Penticton)	30,086,355	19.4	31,555,257	19.2	33,368,834	19.0
16 (Keremeos)	2,900,697	1.9	2,953,085	1.8	3,102,984	1.8
14 (Southern Okanagan)	10,932,665	7.0	11,581,407	7.1	12,445,525	7.1
	$155,006,257	100.0	$163,975,917	100.0	$175,806,988	100.0

TABLE III

ACTUAL AND PROJECTED SCHOOL ENROLLMENTS 1954 to 1969
GRADES 1 - 12 IN OKANAGAN AREA SCHOOL DISTRICTS

District No.	1954-55	1959-60	Increase #	Increase %	1959-60	1964-65	Increase #	Increase %	1964-65	1969-70	Increase #	Increase %
19 (Revelstoke)	991	1268	277	22.9	1268	1618	350	27.6	1618	2268	650	40.2
20 (Salmon Arm)	1901	2428	527	27.7	2428	3097	669	27.6	3097	3650	553	17.9
78 (Enderby)	613	718	105	17.1	718	791	73	10.2	791	946	155	19.6
21 (Armstrong)	716	767	51	7.1	767	915	148	19.3	915	1040	125	13.7
22 (Vernon)	3412	3975	563	16.5	3975	4640	665	16.7	4640	5566	926	20.0
23 (Kelowna)	4361	5443	1082	24.8	5443	6951	1508	28.7	6951	9440	2489	35.8
77 (Summerland)	900	1136	236	26.2	1136	1213	77	6.8	1213	1273	60	4.9
15 (Penticton)	2544	3394	850	33.4	3394	4081	687	20.2	4081	4622	541	13.3
16 (Keremeos)	612	643	31	5.1	643	654	11	1.7	654	680	26	4.0
14 (Southern Okanagan)	1570	1834	264	16.8	1834	2111	277	15.1	2111	2364	253	12.0
	17620	21606	3986	22.6	21606	26071	4465	20.7	26071	31849	5778	22.2

NOTE: 1964-65 figures are for September, 1964 enrollments
1969-70 projected figures are taken from official school district reports.

TABLE IV

GEOGRAPHIC CENTERS SCHOOL POPULATION GRADES 1 - 12
BY MILEAGE FROM REFERENCE POINT

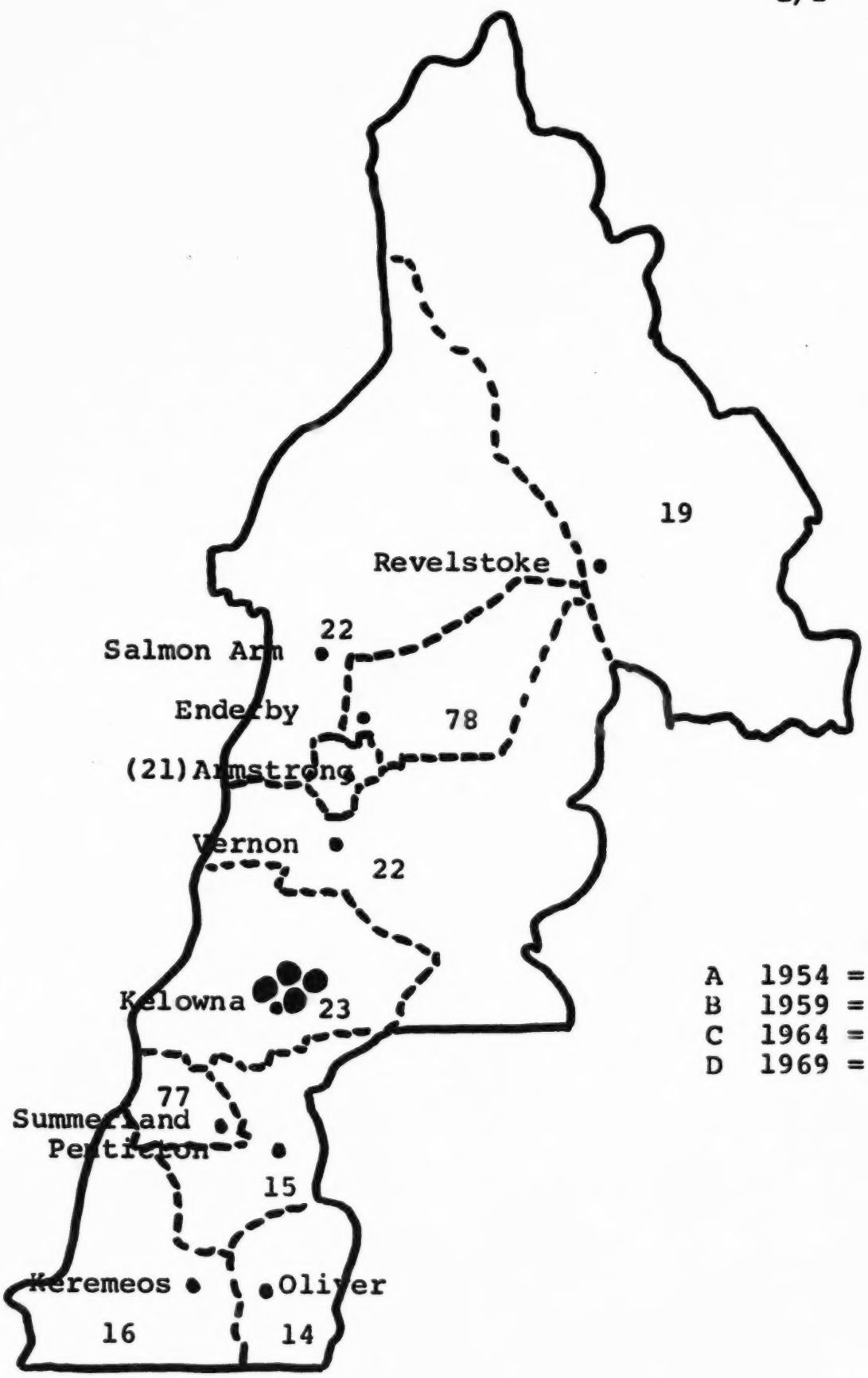
	1954	1959	1964	1969
Grades 1-3	86.9	86.7	87.4	87.8
Grades 4-8	86.7	86.4	86.8	87.0
Grades 9-12	86.9	87.5	86.1	87.2
Total Grades 1-12	86.8	86.9	86.7	86.9

The above data indicates that the geographic centers for school population have changed relatively little during the period 1954 to 1964 in any of the categories. The projected enrollment centers move less than one mile for any category and only .2 mile for the total school population. The shift of the centers of school population, both present and projected, were not considered major factors in the identification of the general location for the college. Figure 6 shows the location of these centers.

School Population Grades 13-14

A method for determining potential community college enrollment was developed by Dr. Lloyd Woodburne in a study of the relationship of full-time enrollments in Washington community colleges to public school enrollment.[10] His study revealed that

1/2" = 1 mile



A 1954 = 86.8
B 1959 = 86.9
C 1964 = 86.7
D 1969 = 86.9

FIGURE 6

GEOGRAPHIC CENTER - SCHOOL POPULATION GRADES 1-12

the most effective index of community college enrollment was the relationship between public school enrollments grades 9 - 12 and actual community college enrollment. On the basis of this relationship, Woodburne determined that the college enrollment was 13 percent of the public school enrollment grades 9 - 12. The Woodburne method was applied to the Okanagan area and checked for consistency by the utilization of Woodburne's alternate formula (65 per cent of grade 12 enrollment) and Smith's formula (1 per cent of total population). Table V and VI indicate the potential grade 13 and 14 enrollments for the area for the years 1964-65 and 1969-70 respectively.

TABLE V

POTENTIAL REGIONAL COLLEGE ENROLLMENT 1964-65 AS DETERMINED BY THE WOODBURNE FORMULA

District	Grades 9-12 Enrollment	Potential Regional College Enrollment
19 (Revelstoke)	365	48
20 (Salmon Arm)	889	116
78 (Enderby)	193	25
21 (Armstrong)	249	32
22 (Vernon)	1,386	180
23 (Kelowna)	1,948	253
77 (Summerland)	359	48
15 (Penticton)	1,322	172
16 (Keremeos)	195	25
14 (Southern Okanagan)	594	77
TOTAL	7,500	975

TABLE VI

POTENTIAL REGIONAL COLLEGE ENROLLMENT 1969-70
AS DETERMINED BY THE WOODBURNE FORMULA

District	Grades 9-12 Enrollment	Potential Regional College Enrollment
19 (Revelstoke)	507	66
20 (Salmon Arm)	1,250*	163
78 (Enderby)	250*	33
21 (Armstrong)	276	36
22 (Vernon)	1,685	219
23 (Kelowna)	2,920	380
77 (Summerland)	403	52
15 (Penticton)	1,670	217
16 (Keremeos)	250*	33
14 (Southern Okanagan)	725	94
TOTAL	9,936	1,293

* Estimated

Geographic Center - School Population Grades 13 - 14

The geographic center of student population grades 13 and 14 was calculated using the mileage formula and the potential regional college enrollments. The center based on the 1964-65 potential enrollment was determined to be a point 86.1 miles north of the reference point on Highway 97. The center based on 1969-70

enrollment was determined to be a point 87.2 miles north of the reference point. Figure 7 shows these centers.

Geographic Center - Composite

A geographic center of the composite of all pertinent factors was determined by the grouping of the various centers of the study which were previously presented. This center is based upon an analysis of all data and describes that area in the region possessing the greatest potential for a specific location of a site which provides the most educational services to the greatest number with the most efficiency and greatest effectiveness. Table VII indicates the geographic centers which have been established.

TABLE VII

GEOGRAPHIC CENTERS INDICATED IN MILES FROM REFERENCE POINT

Population	86.6
Assessed Valuation	85.4
1954 School Population Grades 1-12	86.8
1964 School Population Grades 1-12	86.7
1969 School Population Grades 1-12	86.9
1964 Potential Regional College Population	86.1
1969 Potential Regional College Population	87.2

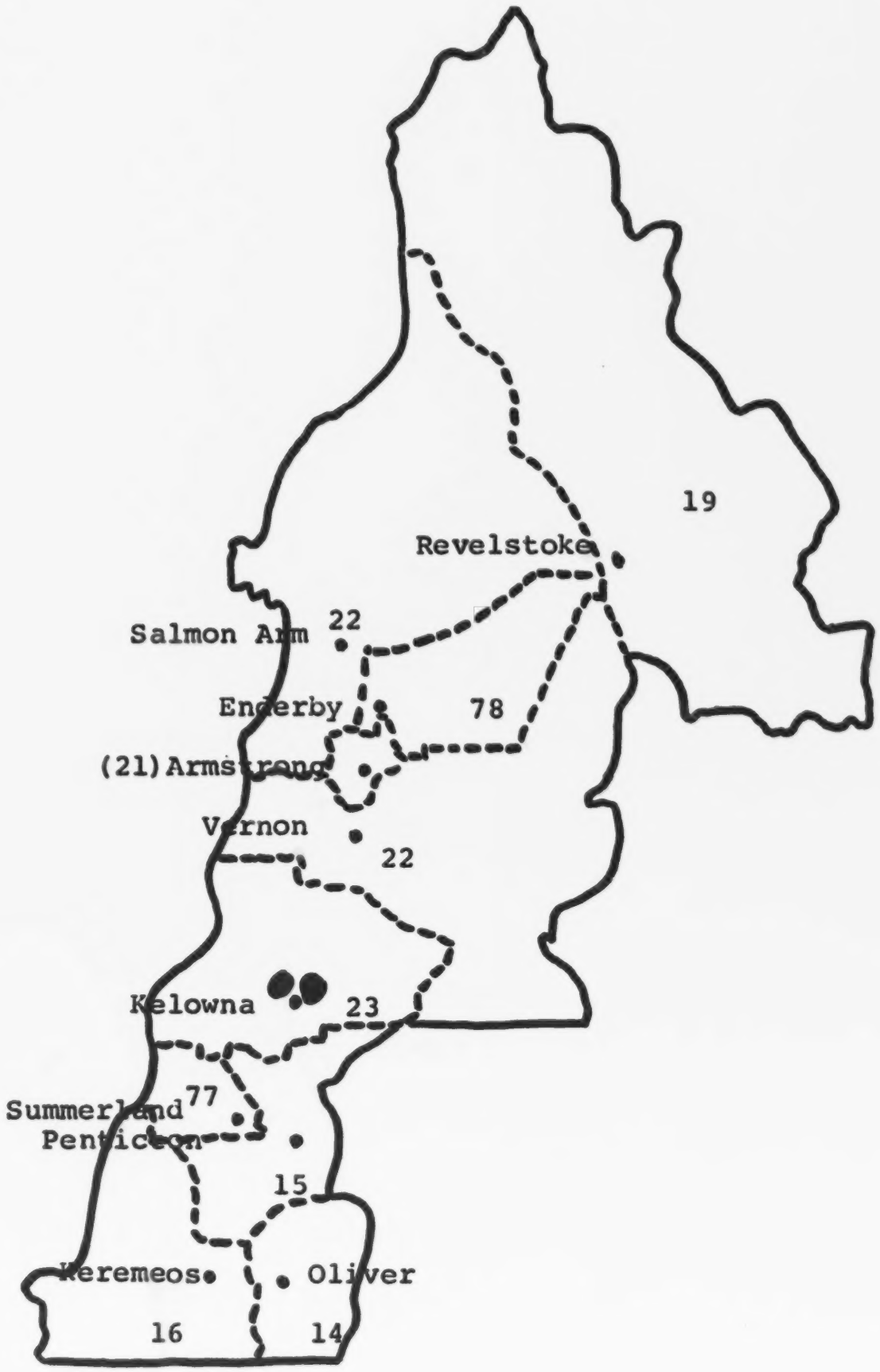


FIGURE 7

GEOGRAPHIC CENTER - SCHOOL POPULATION GRADES 13-14

The focus of all the centers shown in Table VII falls within the circle shown in Figure 8. This circle describes the Geographic Center - Composite of the region. To identify the Geographic Center - Composite its relationship to a known point was established. The geographic center or focus described by the composite factors enables the Study Staff to ultimately apply the criteria of specific site location. The circle was drawn with a 10-mile radius, in order to identify an area within which a specific site could be located.

A specific site for the college should be selected from an evaluation of all potential sites within the general location area shown in Figure 8. These evaluations should be based on a professional study which uses objective criteria and evaluative instruments for rating sites.

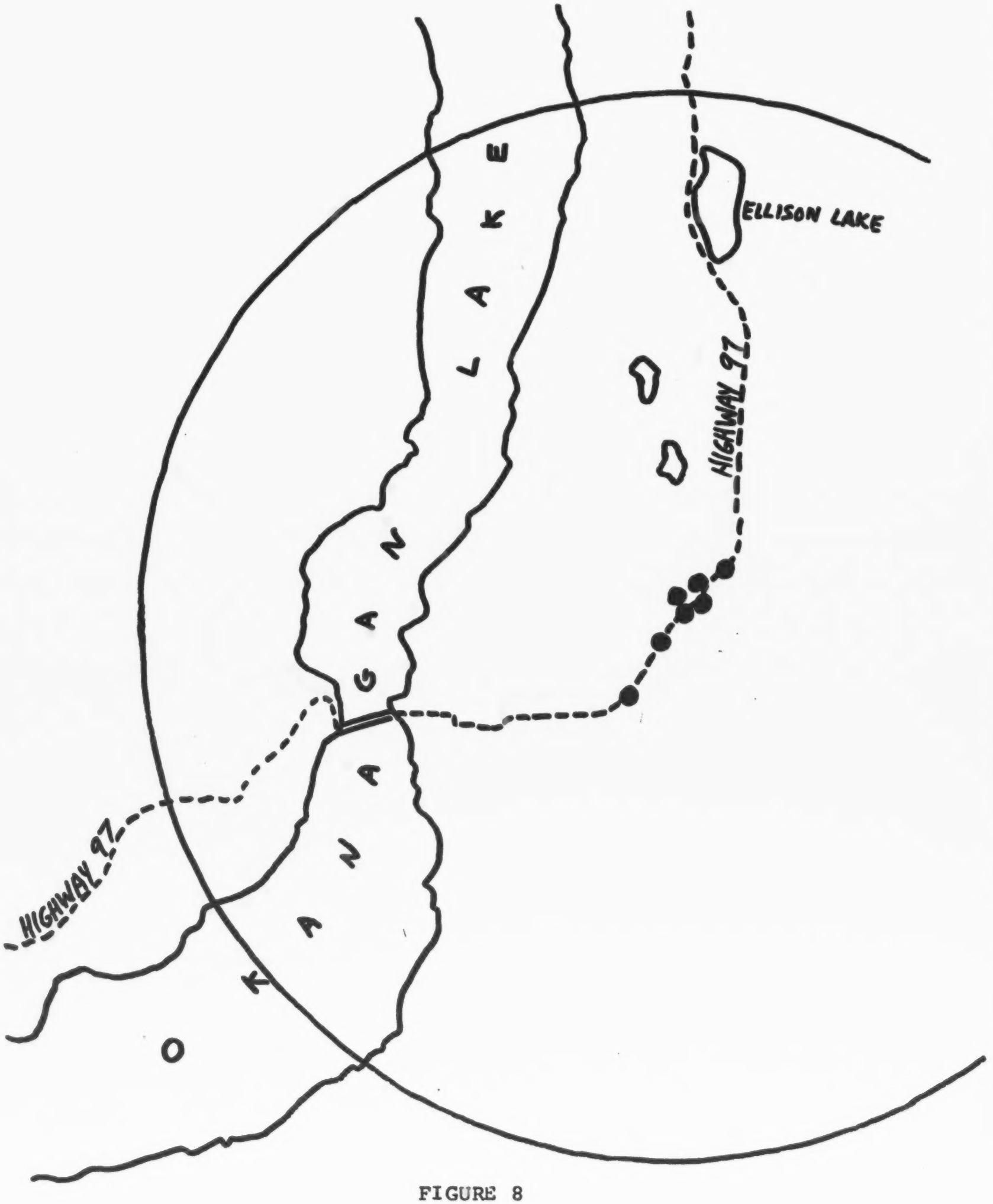


FIGURE 8

COMPOSITE GEOGRAPHIC CENTER

PART III - ANALYSIS OF FACTORS AFFECTING GENERAL SITE LOCATION

Commuting

The college should be located in a region so that the highest percentage of potential college students are potential commuting students. According to a recent study by the Coordinating Council for Higher Education in California the generally accepted commuting distance is based upon a maximum of one hour one way.[11] Applying this criterion to the composite center we include the following districts within potential commuting range:

District	Potential students in 1964-65
Penticton	172
Summerland	47
Kelowna	253
Vernon	180
TOTAL	652

Thus, of the 975 potential college students in 1964-65, 652 or 67 per cent are within potential commuting range of 1 hour commuting time of the center.

It is also recognized that the extreme Northern district of Revelstoke, with 48 potential college students, and a large

proportion of the Salmon Arm District, with 116 potential college students, are outside of the commuting range of any location for a regional college based on the concept of centrality employed in this study. This is also true of about fifty per cent of the 100 potential students of Keremeos and South Okanagan. Therefore, if we subtract these 218 potential students we find there are 757 possible commuting students regardless of the location of the college unless it were to be located in those extreme areas which in turn would eliminate a far greater number.

Thus, of the 757 potential commuting college students, 652 or 86 per cent are within potential commuting range of the center.

Population

A significant criterion for establishing the need for a regional college is the total population within the region. The amount of educational services required or needed within a region is directly related to the number of people in the region. The approximate total population of the region in 1964 is 100,460, which is adequate to support a regional college. However, the best indication is the population within the region within potential commuting range. The approximate total population within potential commuting range of the center is:

District	Approximate District 1964 Population
Penticton	16,500
Summerland	4,800
Kelowna	26,200
Vernon	19,500
Total Population	67,000

The population of 67,000 within the potential commuting region should provide 670 college students using the base of 1 college student for each one hundred population. The potential commuting region contains approximately 67 per cent of the total population.

Concentrations of Population

The location of a regional college should be in a major concentration of population in order that a high proportion of the potential students are in close commuting range. If a composite center falls outside a major concentration of population, the location should be moved to the nearest concentration. In the Okanagan Region there is not one concentration of population but there are three. The composite center of this study falls within one of these three -- a district which contains 26 per cent of the total population of the area under study.

Assessed Valuation

For a region to support a regional college it must have adequate tax base of assessed valuation. The California Coordinating Council for Higher Education study previously cited suggests that the assessed valuation should exceed $60,000,000 in order to support a college of 400 students. The 1964 assessed valuation of the Okanagan Region exceeded $175,000,000, which is more than adequate to support a college for the potential student body. The school district in which the composite center falls contains 30.3 per cent of the total assessed valuation of the study area and the region within potential commuting distance of the composite center contains 72.2 per cent. No single district contains enough assessed valuation to adequately support a regional college.

Relevant Studies

The two most recent studies consulted by the Study Staff (Smith and California Coordinating Council) suggest several basic minimum criteria as reliable guides in the establishing of community colleges in Washington and California. Smith reviewed pertinent literature concerning establishing such institutions between the years 1925 and 1961. The California study represents the latest thinking concerning development of community colleges in that state. The suggested basic minimum criteria are compared to data for the four districts in the potential commuting area in Table VIII

TABLE VIII

APPLICATION OF BASIC MINIMUM CRITERIA

Criteria	Basic Minimum Criteria	Proposed Commuting Area
Minimum College Enrollment	400	652
Minimum High School Enrollment of College District	2,200	5,042
Minimum Annual High School Graduates in College District	450	998
Assessed Valuation	$60,000,000	$126,963,680
Total Population in College District	40,000	67,000

The potential commuting area thus meets the minimum criteria established by studies made in Washington and California. However, it must be pointed out that these criteria are based on the community college being organized as a comprehensive institution providing the total post-high school educational program for all students who choose to remain in the area. The development of post-high school vocational programs and maintenance of senior matriculation programs outside the regional college will reduce the potential regional college enrollment closer to the minimums cited in the above table.

PART IV - CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The following general conclusions have been derived from the analysis of the data collected, briefs submitted, hearings conducted, meetings attended, examination of various reports and documents, and consideration of all information available to the Study Staff, as well as the professional judgement of the authors.

(1) The Okanagan Region needs a regional college and has the population, resources, and potential students to develop and support an outstanding college program. Sufficient general population, adequate assessed valuation, and an ample pool of potential students all substantiate and document the conclusion.

(2) The people of the region show extreme interest and willingness to work toward and cooperate in the establishment of a regional college. City governments, Chambers of Commerce, Boards of Trustees, Women's organizations and other agencies, as well as private citizens, have conducted excellent studies, prepared outstanding briefs and made documentary presentations at hearings in an effort to substantiate their interest in a regional college. A positive attitude and interest was found by the Study Staff at every turn on a trip through the region.

(3) The concept of one Regional College Board for the development of post-high school education in the entire area is the best method of organization. The development of a regional college

program for the total region provides for less chance of unnecessary duplication, overlapping, and competition. The single board concept, based on adequate population and resources, can more effectively develop a program with high standards of excellence and the facilities for the solution of region-wide educational programs.

(4) The number of potential regional college students in 1964-65 and projected for 1969-70 does not warrant or justify the establishment of more than one college or campus. The 975 potential college students in 1964-65 and the projected 1,293 for 1969-70 is based on the development and acceptance of a comprehensive regional college. The actual number of full time enrollments will depend upon decisions about such factors as the senior matriculation and vocational programs which will have to be made at some future time. Consideration was given to the concept of multiple colleges, but in the judgement of the Study Staff such action would only divide and dilute the resources of the region and provide a potential student pool at or below the bare minimum for a successful beginning.

(5) The establishment of one campus will not give equal accessibility to all potential students. About 67 per cent of the potential college students are within potential commuting range. The amount of commuting time among these will vary from five minutes to one hour. The 33 per cent who are outside of the potential commuting range have less accessibility to the

college center. The nature of the total region and the distribution of population prevents an equal accessibility to all.

(6) Arrangements will have to be developed for providing adult education, cultural and other community activities in centers of population other than the one in which the campus is located. Experience indicates that accessibility to adult, part time, cultural, and other community programs is of prime importance to their success. People will not commute long distances for these and, if the area is to be served, the programs will have to be taken to the people.

(7) Provisions should be made for equalizing the cost of education for those students who have to commute long distances or move to the community to attend the college. Equal financial accessibility becomes important to the student if equal opportunity for education is to be provided. This could be done by a differential in fees paid or subsidies for transportation, or by providing bus transportation from the population centers other than the one in which the college is located.

(8) Provisions may have to be made for equalizing the tax levied for operations of the college, within limitations of provincial legislation, according to a formula based on the proximity of the various public school centers to the college. Because of the obvious geographic advantage enjoyed by students who reside within commuting distance of the college, students from outside the commuting area are, in effect, required to assume a greater

financial burden if they wish to attend. In addition to a graduated levy based on distance from the college center, financial accessibility might be achieved through subsidizing housing for students who cannot commute.

(9) Residential provision will have to be made for students whose residence is beyond reasonable commuting range. Thirty-three per cent of the potential students live beyond the potential commuting range. Some of the students within the potential commuting range may also find it necessary to become resident students. Existing community facilities will be available for some of these students, but provision will need to be made for additional college-administered housing. The amount of housing development should be based on a thorough study of need and existing facilities within the community.

(10) Anticipated and projected increases in population and in potential students indicate that at some time in the future one campus may not best serve the needs of the region and that additional campuses in the northern and southern sections will be needed. If the population of the region increases as anticipated and the number of students increases proportionately, there should be established new campuses in major centers of population to provide educational opportunity closer to a greater proportion of the people, rather than developing one large regional college. By having the total region within the college organization these developments can be planned and developed when

needed without conflict and competition and with less financial burden.

(11) The relationship of the Regional College to the Provincial Vocational School, senior matriculation programs, and adult education offerings will need to be considered. Independent decisions regarding any single program will affect the others, particularly the Regional College. A comprehensive college could include all or segments of each of these programs. A truly comprehensive institution cannot effectively function if it is assigned only those services that are not provided by other existing programs.

Recommendations

(1) The analysis of the data of the study conclusively indicates that the best general location for a regional college to provide the most educational services accessible to the greatest number in the Okanagan region is near the City of Kelowna.

(2) The second phase of the study, "Evaluation and Selection of a Specific Site for the Okanagan Regional College", should be authorized. This phase should be a professional study using objective criteria for evaluating specific potential site locations.

APPENDIX A

LIST OF PARTICIPATING SCHOOL DISTRICTS IN OKANAGAN VALLEY REGIONAL COLLEGE AREA

1. School District No. 14 (South Okanagan)
   Board Chairman: Frank Venables, Oliver, B.C.
   College Representative: W. R. G. Dell, Osoyoos, B.C.

2. School District No. 15 (Penticton)
   Board Chairman: W. G. Clough, Penticton, B.C.
   College Representative: L. Lyster, Penticton, B.C.

3. School District No. 16 (Keremeos)
   Board Chairman: C. L. Finch, Cawston, B.C.
   College Representative: As above

4. School District No. 19 (Revelstoke)
   Board Chairman: Dr. W. R. Armstrong, Revelstoke, B.C.
   College Representative: O. Domke, Revelstoke, B.C.

5. School District No. 20 (Salmon Arm)
   Board Chairman: C. N. Shoemaker, Salmon Arm, B.C.
   College Representative: A. D. Green, Salmon Arm, B.C.

6. School District No. 21 (Armstrong)
   Board Chairman: Garner Foster, Armstrong, B.C.
   College Representative: As above

7. School District No. 22 (Vernon)
   Board Chairman: J. W. Inglis, Lumby, B.C.
   College Representative: G. A. Reed, Vernon, B.C.

8. School District No. 23 (Kelowna)
   Board Chairman: C. D. Buckland, Kelowna, B.C.
   College Representative: As above

9. School District No. 77 (Summerland)
   Board Chairman: J. H. Bennest, Summerland, B.C.
   College Representative: As above.

10. School District No. 78 (Enderby)
    Board Chairman: Donald J. McEwan, Grindrod, B.C.
    College Representative: B. G. Collins, Enderby, B.C.

APPENDIX B

Work Sheet

Population TOTAL POPULATION Year 1964-65

Interval	District	f	cuf
210-219	19 (Revelstoke)	5,500	100,460
200-209			
190-199			
180-189			
170-179			
160-169			
150-159	20 (Salmon Arm)	10,900	94,960
140-149			
130-139			
	78 (Enderby)	3,600	
120-129	21 (Armstrong)	3,160	84,060
110-119	22 (Vernon)	19,500	77,300
100-109			
90-99			
80-89	23 (Kelowna)	26,200	57,800
70-79			
60-69	16 (Keremeos)	3,100	31,600
50-59			
	77 (Summerland)	4,800	
40-49	15 (Penticton)	16,500	28,500
30-39			
20-29			
10-19	14 (S. Okanagan)	7,200	7,200
0-9			

Computation formula: *

$$Mdn = LL_s + \frac{iN/2 - F_c}{F_s}$$

Mdn = Median, or midpoint

N = 100,460 or total population

N/2 = 50,230 or half of total population

s interval = 80-89, the interval in which N/2 falls

F_c = 31,600, or the cumulative population below s interval

F_s = 26,200, or the population frequency within s interval

i = 10, the size in units of the interval (miles)

LL_s = 79.5 miles, or the algebraic point between the s interval and the one below it

$$Mdn = 79.5 + 10 \times \frac{50,230 - 31,600}{26,200} = 86.6,$$ or a point 86.6 miles above reference point zero on Highway 97 which theoretically represents the point at which half of the total population resides to the North; the other half to the South.

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